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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,607	12/14/2001	Mehdi Tavassoli Kilani	3927P008	7881

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EXAMINER	
BOAKYE, ALEXANDER O	

ART UNIT	PAPER NUMBER
2667	5

DATE MAILED: 05/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/017,607	Applicant(s) KILANI, MEHDI TAVASSOLI	
	Examiner ALEXANDER BOAKYE	Art Unit 2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,8, 9, 10,16,* is/are rejected.

7)☒ Claim(s) *2-7 and 11-15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 8-9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. As stated in the MPEP, "A process that merely manipulates an abstract idea or performs a purely mathematical algorithm is non-statutory despite the fact that it might inherently have some usefulness. For the subject matter to be statutory, the claimed process must be limited to a practical application of the abstract idea or mathematical algorithm in the technological arts". See MPEP 2106 IV B2 b (ii). Furthermore, "A claim is limited to a practical application when the method, as claimed, produces a concrete, tangible, and useful results, ie., the method recites a step or act of producing something that is concrete, tangible, and useful". See MPEP 2106 IV B 2 b (ii).

CLAIM 8:

Claim 8 as currently presented:

"Performing a Fast Fourier Transform (FFT) on received symbols; subtracting phases of FFT coefficients of current symbol from phases of FFT coefficients of previous symbols to produce a sum; and comparing the sum to a predetermined value".

As currently presented, the first set of limitations within claim 8 call for a Fast Fourier Transformation is performed on received symbols to produce a value. Phases of the FFT coefficients of the current symbol are subtracted from the FFT coefficients of previous symbol to produce a sum value. The sum is then compared against a predetermined value without performing any specific function.

Examining the claim as a whole demonstrates that after performing a Fast Fourier Transformation on the received symbols to produce a value and phases of FFT coefficients of current symbol subtracted from phases of FFT coefficients of previous symbols to produce a sum, the sum is then compared against a predetermined value. This claim as a whole is directed to nothing more than performing a purely a mathematical algorithm without any practical limitations.

CLAIM 9:

Claim 9 as currently presented:

"applying a filtering in frequency domain prior to subtracting the phases of FFT coefficients; and recognizing a data symbol if the sum is above the predetermined value."

As currently presented, the first set of limitations within claim 9 call for filtering in frequency domain is applied prior to subtracting the phases of FFT coefficients and a data symbol recognized if the sum is above the predetermined value without performing any specific function.

Examining the claim as a whole demonstrates that after filtering in the frequency domain prior to subtracting the phases of FTT coefficients, a data symbol is recognized if the sum is above the predetermined value without performing any specific function. This claim as a whole is directed to nothing more than performing a purely a mathematical algorithm without any practical limitations.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 10 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Saito et al. (US Patent # 5,818,813).

Regarding claim 1, Saito teaches a system (column 2, lines 48-51) comprising : a transmitter in a first network node to generate a sequence of symbols, the sequence of symbols including preamble symbols and a data symbol (column 5, lines 35-45; column 6, lines 4-23; the sequence of symbols reads on synchronizing symbols and data transmitting symbols as shown in Fig. 8; the transmitter prepends preamble symbols to the beginning of each data packets) ; and a receiver in a second network node to receive the sequence of symbols generated by the transmitter, the receiver including a frame synchronizer logic to perform frame synchronization (column 6, lines 32-42; column 6, lines 52-59 ; the claimed frame synchronizer logic corresponds to synchronizing symbol position detector block 34 of Fig. 7).

Regarding claim 10, Saito teaches a method comprising: generating a sequence of symbols, the sequence of symbols including symbols and a data symbols (column 5, lines 35-45; column 6, lines 4-23; the claimed sequence of symbols correspond to synchronizing symbols and data transmitting symbols as indicated in Fig. 8); and receiving the sequence of symbols generated by the transmitter, the receiver including a frame synchronizer logic to perform frame synchronization (column 6, lines 32-42 ; column 6, lines 52-59; the claimed frame synchronizer logic corresponds to synchronizing symbol position detector block 34 of Fig. 7).

Regarding claim 16, Saito discloses: generating a sequence of symbols, the sequence of symbols including a preamble symbols and a data symbols(column 5, lines 35-45; column 6, lines 4-23; the claimed sequence of symbols corresponds to synchronizing symbols and data transmitting symbols as shown in Fig. 8); and receiving the sequence of symbols generated by the transmitter (see Fig. 6), the receiver including a frame synchronizer logic to perform frame synchronization (column 6, lines 32-42; column 6, lines 52-59). The OFDM transmission system (column 5, lines 31-34) reads on the claimed machine-readable medium.

Allowable Subject Matter

3. Claims 2-7, 11-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 8-9 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 101, set forth in this Office action.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Boakye whose telephone number is (703) 308-9554. The examiner can normally be reached on M-F from 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham, can be reached on (703) 305-4378. The fax number is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the group receptionist whose telephone number is (703) 305-4750.

Alexander Boakye

Patent Examiner
AB
5/15/04

CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 5/24/04